IN THE CLAIMS

The following is a complete list of the claims now pending; this listing replaces all earlier versions and listings of the claims.

1. (Currently Amended) A method of generating an image, ~~said~~ the image to be formed by rendering and compositing at least a plurality of graphical objects, each ~~said~~ object having a predetermined outline, said method comprising ~~the steps of~~:

a dividing step, of dividing a space in which ~~said~~ the outlines are defined into a plurality of regions, each ~~said~~ region being defined by at least one region outline substantially following at least one of ~~said~~ the predetermined outlines or parts thereof, wherein at least one horizontal or vertical segment of one or more of the ~~said~~ region outlines ~~are substantially formed by~~ is selected from corresponding horizontal or vertical segments of a virtual grid encompassing ~~said~~ the space, depending on the predetermined outlines;

a manipulation step, of manipulating ~~said~~ the regions to determine a plurality of further regions, at least one horizontal or vertical segment of one or more of the ~~said~~ further regions being ~~dependent~~ selected from corresponding horizontal or vertical ~~on said~~ segments of ~~said~~ the virtual grid, wherein each ~~said~~ further region has a corresponding compositing expression;

a classification step, of classifying ~~said~~ the further regions according to at least one attribute of any one or more of the ~~said~~ graphical objects which substantially fall within ~~said~~ the further regions;

a modification step, of modifying each ~~said~~ corresponding compositing expression according to a classification of each ~~said~~ further region to form an optimized compositing expression for each ~~said~~ further region compared to ~~said~~ the corresponding compositing expression, ~~said~~ the corresponding compositing expressions being optimized by eliminating one or more objects within ~~said~~ the further regions from one or more of ~~said~~ the corresponding expressions, depending on ~~said~~ the classifications, ~~without modifying~~ while maintaining the ~~said~~ image to be generated; and

a generation step, of generating ~~said~~ the image by compositing ~~said~~ the plurality of graphical objects using each of ~~said~~ the optimized compositing expressions.

2. (Currently Amended) A method according to claim 1, wherein ~~said~~ the attribute is selected from the group consisting of ~~colour~~ color, opacity and object outline.

3. (Currently Amended) A method according to claim 1, wherein said manipulating ~~said~~ the regions comprises applying set operations to ~~said~~ the regions.

4. (Currently Amended) A method according to claim 3, wherein ~~said~~ the set operations include difference and/or intersection operations.

5. (Currently Amended) A method according claim 1, wherein ~~said~~ the grid is regularly spaced and preferably orthogonally based.

6. (Currently Amended) A method according to claim 1, wherein ~~said~~ the grid is irregularly shaped.

7. (Original) A method according to claim 1, wherein the compositing expression is a hierarchically structured representation of the image.

8. (Currently Amended) A method according to claim 1, wherein ~~said~~ the image is at least in part a pixel-based image.

9. (Original) A method according to claim 1, wherein a flag is stored to indicate whether data of an object is opaque or ordinary.

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10. (Currently Amended) A method according to claim 9, wherein ~~said~~ the compositing expression is optimized based on a value of ~~said~~ the flag for contributing objects.

11. (Currently Amended) A method according to claim 1, wherein a wholly opaque object in ~~said~~ the region acts to eliminate one or more objects within ~~said~~ the further region from ~~said~~ the compositing expressions.

12. (Currently Amended) A method according to claim 1, wherein a wholly transparent object in ~~said~~ the region eliminates at least itself from ~~said~~ the compositing expression.

13. (Currently Amended) A method according to claim 7, wherein said modifying comprises modifying a manner in which ~~said~~ the compositing expression is evaluated without modifying ~~said~~ the hierarchically structured representation.

14. (Currently Amended) A method of generating an image, ~~said~~ the image to be formed by rendering and compositing at least a plurality of graphical objects, each ~~said~~ object having a predetermined outline, said method comprising ~~the steps of~~:

a dividing step, of dividing a space in which ~~said~~ the outlines are defined into a plurality of regions, each ~~said~~ region being defined by at least one region outline substantially following at least one of ~~said~~ the predetermined outlines or parts thereof, wherein at least one horizontal or vertical segment of one or more of the ~~said~~ region outlines is selected from corresponding horizontal or vertical ~~are substantially formed by~~ segments of a virtual grid encompassing ~~said~~ the space, depending on the predetermined outlines, wherein each object has two region outlines arranged either side of ~~said~~ the predetermined outline to thus define three regions for each ~~said~~ object, and wherein each ~~said~~ region has a corresponding compositing expression;

a classification step, of classifying ~~said~~ the regions according to at least one attribute of any one or more of the ~~said~~ graphical objects which substantially fall within ~~said~~ the regions;

a modification step, of modifying each ~~said~~ corresponding compositing expression according to a classification of each ~~said~~ region to form an optimized compositing expression for each ~~said~~ region compared to ~~said~~ the corresponding compositing expression, ~~said~~

the corresponding compositing expressions being optimized by eliminating one or more objects within ~~said further~~ the regions from one or more of ~~said~~ the corresponding expressions, depending on ~~said~~ the classifications, ~~without modifying said~~ while maintaining the image to be generated; and

a generation step, of generating ~~said~~ the image by compositing ~~said~~ the plurality of graphical objects using each of ~~said~~ the optimized compositing expressions.

15. (Currently Amended) A method according to claim 14, wherein ~~said~~ the attribute is selected from the group consisting of ~~colour~~ color, opacity and object outline.

16. (Currently Amended) A method according to claim 14, wherein ~~said~~ the grid is regularly spaced and preferably orthogonally based.

17. (Currently Amended) A method according to claim 14, wherein ~~said~~ the grid is irregularly shaped.

18. (Currently Amended) A method according to claim 14, wherein ~~said~~ the compositing expression is a hierarchically structured representation of the image.

19. (Currently Amended) A method according to claim 14, wherein ~~said~~ the image is at least in part a pixel-based image.

20. (Original) A method according to claim 14, wherein a flag is stored to indicate whether data of an object is opaque or ordinary.

21. (Currently Amended) A method according to claim 20, wherein ~~said~~ the compositing expression is optimized based on a value of ~~said~~ the flag for contributing objects.

22. (Currently Amended) A method according to claim 14, wherein a wholly opaque object in ~~said~~ the region acts to eliminate one or more objects within ~~said~~ the further region from ~~said~~ the compositing expressions.

23. (Currently Amended) A method according to claim 14, wherein a wholly transparent object in ~~said~~ the region eliminates at least itself from ~~said~~ the compositing expression.

24. (Currently Amended) A method according to claim 18, wherein said modifying comprises modifying a manner in which ~~said~~ the compositing expression is evaluated without modifying ~~said~~ the hierarchically structured representation.

25. (Currently Amended) An apparatus for generating an image, ~~said~~ the image to be formed by rendering and compositing at least a plurality of graphical objects, each ~~said~~ object having a predetermined outline, said apparatus comprising:

dividing means for dividing a space in which ~~said~~ the outlines are defined into a plurality of regions, each ~~said~~ region being defined by at least one region outline substantially following at least one of ~~said~~ the predetermined outlines or parts thereof, wherein at least one horizontal or vertical segment of one or more of the ~~said~~ region outlines is selected from corresponding horizontal or vertical ~~are substantially formed by~~ segments of a virtual grid encompassing ~~said~~ the space, depending on said predetermined outlines;

manipulating means for manipulating ~~said~~ the regions to determine a plurality of further regions, at least one horizontal or vertical segment of one or more of the ~~said~~ further regions being selected from corresponding horizontal or vertical ~~dependent on said~~ segments of ~~said~~ the virtual grid, wherein each ~~said~~ further region has a corresponding compositing expression;

classifying means for classifying ~~said~~ the further regions according to at least one attribute of any one or more of the ~~said~~ graphical objects which substantially fall within ~~said~~ the further regions;

modifying means for modifying each ~~said~~ corresponding compositing expression according to a classification of each ~~said~~ further region to form an optimized compositing expression for each ~~said~~ further region compared to ~~said~~ the corresponding compositing expression, ~~said~~ the corresponding compositing expressions being optimized by eliminating one or more objects within ~~said~~ the further regions from one or more of ~~said~~ the corresponding expressions, depending on ~~said~~ the classifications, ~~without modifying~~ while maintaining the ~~said~~ image to be generated; and

generating means for generating ~~said~~ the image by compositing ~~said~~ the plurality of graphical objects using each of ~~said~~ the optimized compositing expressions.

26. (Currently Amended) An apparatus according to claim 25, wherein ~~said~~ the attribute is selected from the group consisting of ~~colour~~ color, opacity and object outline.

27. (Currently Amended) An apparatus according to claim 25, wherein said manipulating ~~said~~ the regions comprises applying set operations to ~~said~~ the regions.

28. (Currently Amended) An apparatus according to claim 27, wherein ~~said~~ the set operations include difference and/or intersection operations.

29. (Currently Amended) An apparatus according to claim 25, wherein ~~said~~ the grid is regularly spaced and preferably orthogonally based.

30. (Currently Amended) An apparatus according to claim 25, wherein ~~said~~ the grid is irregularly shaped.

31. (Currently Amended) An apparatus according to claim 25, wherein ~~said~~ the compositing expression is a hierarchically structured representation of the image.

32. (Currently Amended) An apparatus according to claim 25, wherein ~~said~~ the image is at least in part a pixel-based image.

33. (Original) An apparatus according to claim 25, wherein a flag is stored to indicate whether data of an object is opaque or ordinary,

34. (Currently Amended) An apparatus according to claim 33, wherein ~~said~~ the compositing expression is optimized based on a value of ~~said~~ the flag for contributing objects.

35. (Currently Amended) An apparatus according to claim 25, wherein a wholly opaque object in ~~said~~ the region acts to eliminate one or more objects within ~~said~~ the further region from ~~said~~ the compositing expressions.

36. (Currently Amended) An apparatus according to claim 25, wherein a wholly transparent object in ~~said~~ the region eliminates at least itself from ~~said~~ the compositing expression.

37. (Currently Amended) An apparatus according to claim 31, wherein said modifying comprises modifying a manner in which ~~said~~ the compositing expression is evaluated without modifying ~~said~~ the hierarchically structured representation.

38. (Currently Amended) An apparatus for generating an image, ~~said~~ the image to be formed by rendering and compositing at least a plurality of graphical objects, each ~~said~~ object having a predetermined outline, said apparatus comprising:

dividing means for dividing a space in which ~~said~~ the outlines are defined into a plurality of regions, each ~~said~~ region being defined by at least one region outline substantially following at least one of ~~said~~ the predetermined outlines or parts thereof, wherein at least one horizontal or vertical segment of one or more of the ~~said~~ region outlines is selected from corresponding horizontal or vertical ~~are substantially formed by~~ segments of a virtual grid encompassing ~~said~~ the space, depending on the predetermined outlines, wherein each object has two region outlines arranged either side of ~~said~~ the predetermined outline to thus define three regions for each ~~said~~ object, and wherein each ~~said~~ region has a corresponding compositing expression;

classifying means for classifying ~~said~~ the regions according to at least one attribute of any one or more of the ~~said~~ graphical objects which substantially fall within ~~said~~ the regions;

modifying means for modifying each ~~said~~ corresponding compositing expression according to a classification of each ~~said~~ region to form an optimized compositing expression for each ~~said~~ region compared to ~~said~~ the corresponding compositing expression, ~~said~~ the d corresponding compositing expressions being optimized by eliminating one or more objects within ~~said further~~ the regions from one or more of ~~said~~ the corresponding expressions, depending on ~~said~~ the classifications, while maintaining ~~without modifying said~~ the image to be generated; and

generation means for generating ~~said~~ the image by compositing ~~said~~ the plurality of graphical objects using each of ~~said~~ the optimized compositing expressions.

39. (Currently Amended) An apparatus according to claim 38, wherein ~~said~~ the attribute is selected from the group consisting of ~~colour~~ color, opacity and object outline.

40. (Currently Amended) An apparatus according to claim 38, wherein ~~said~~ the grid is regularly spaced and preferably orthogonally based.

41. (Currently Amended) An apparatus according to claim 38, wherein ~~said~~ the grid is irregularly shaped.

42. (Currently Amended) An apparatus according to claim 38, wherein ~~said~~ the compositing expression is a hierarchically structured representation of the image.

43. (Currently Amended) An apparatus according to claim 38, wherein ~~said~~ the image is at least in part a pixel-based image.

44. (Original) An apparatus according to claim 38, wherein a flag is stored to indicate whether data of an object is opaque or ordinary.

45. (Currently Amended) An apparatus according to claim 44, wherein ~~said~~ the compositing expression is optimized based on a value of ~~said~~ the flag for contributing objects.

46. (Currently Amended) An apparatus according to claim 38, wherein a wholly opaque object in ~~said~~ the region acts to eliminate one or more objects within ~~said~~ the further region from ~~said~~ the compositing expressions.

47. (Currently Amended) An apparatus according to claim 38, wherein a wholly transparent object in ~~said~~ the region eliminates at least itself from ~~said~~ the compositing expression.

48. (Currently Amended) An apparatus according to claim 42, wherein said modifying comprises modifying a manner in which ~~said~~ the compositing expression is evaluated without modifying ~~said~~ the hierarchically structured representation.

49. (Currently Amended) A computer program product including a computer readable medium having a plurality of software modules for generating an image, ~~said~~ the image to be formed by rendering and compositing at least a plurality of graphical objects, each ~~said~~ object having a predetermined outline, said computer program product comprising:

a dividing module for dividing a space in which ~~said~~ the outlines are defined into a plurality of regions, each ~~said~~ region being defined by at least one region outline

substantially following at least one of ~~said~~ the predetermined outlines or parts thereof, wherein at least one horizontal or vertical segment of one or more of the ~~said~~ region outlines is selected from corresponding horizontal or vertical ~~are substantially formed by~~ segments of a virtual grid encompassing ~~said~~ the space, depending on said predetermined outlines;

a manipulating module for manipulating ~~said~~ the regions to determine a plurality of further regions, at least one horizontal or vertical segment of one or more of the ~~said~~ further regions being ~~dependent~~ selected from corresponding horizontal or vertical ~~on said~~ segments of ~~said~~ the virtual grid, wherein each ~~said~~ further region has a corresponding compositing expression;

a classifying module for classifying ~~said~~ the further regions according to at least one attribute of any one or more of the ~~said~~ graphical objects which substantially fall within ~~said~~ the further regions;

a modifying module for modifying each ~~said~~ corresponding compositing expression according to a classification of each ~~said~~ further region to form an optimized compositing expression for each ~~said~~ further region compared to ~~said~~ the corresponding compositing expression, ~~said~~ the corresponding compositing expressions being optimized by eliminating one or more objects within ~~said~~ the further regions from one or more of ~~said~~ the corresponding expressions, depending on ~~said~~ the classifications, while maintaining ~~without modifying said~~ the image to be generated; and

generating module for generating ~~said~~ the image by compositing ~~said~~ the plurality of graphical objects using each of ~~said~~ the optimized compositing expressions.

50. (Currently Amended) A computer program product according to claim 49, wherein ~~said~~ the attribute is selected from the group consisting of ~~colour~~ color, opacity and object outline.

51. (Currently Amended) A computer program product according to claim 49, wherein said manipulating ~~said~~ the regions comprises applying set operations to ~~said~~ the regions.

52. (Currently Amended) A computer program product according to claim 51, wherein ~~said~~ the set operations include difference and/or intersection operations.

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53. (Currently Amended) A computer program product according to claim 49, wherein ~~said~~ the grid is regularly spaced and preferably orthogonally based.

54. (Currently Amended) A computer program product according to claim 49, wherein ~~said~~ the grid is irregularly shaped.

55. (Currently Amended) A computer program product according to claim 49, wherein ~~said~~ the compositing expression is a hierarchically structured representation of the image.

56. (Currently Amended) A computer program product according to claim 49, wherein ~~said~~ the image is at least in part a pixel-based image.

57. (Original) A computer program product according to claim 49, wherein a flag is stored to indicate whether data of an object is opaque or ordinary.

58. (Currently Amended) A computer program product according to claim 57, wherein ~~said~~ the compositing expression is optimized based on a value of ~~said~~ the flag for contributing objects.

59. (Currently Amended) A computer program product according to claim 49, wherein a wholly opaque object in ~~said~~ the region acts to eliminate one or more objects within ~~said~~ the further region from ~~said~~ the compositing expressions.

60. (Currently Amended) A computer program product according to claim 49, wherein a wholly transparent object in ~~said~~ the region eliminates at least itself from ~~said~~ the compositing expression.

61. (Currently Amended) A computer program product according to claim 55, wherein said modifying comprises modifying a manner in which ~~said~~ the compositing expression is evaluated without modifying ~~said~~ the hierarchically structured representation.

62. (Currently Amended) A computer program product including a computer readable medium having a plurality of software modules for generating an image, ~~said~~ the image to be formed by rendering and compositing at least a plurality of graphical objects, each ~~said~~ object having a predetermined outline, said computer program product comprising:

a dividing module for dividing a space in which ~~said~~ the outlines are defined into a plurality of regions, each ~~said~~ region being defined by at least one region outline substantially following at least one of ~~said~~ the predetermined outlines or parts thereof, wherein at least one horizontal or vertical segment of one or more of the ~~said~~ region outlines is selected from corresponding horizontal or vertical ~~are substantially formed by~~ segments of a virtual grid encompassing ~~said~~ the space, depending on the predetermined outlines, wherein each object has two region outlines arranged either side of ~~said~~ the predetermined outline to thus define three regions for each ~~said~~ object, and wherein each ~~said~~ region has a corresponding compositing expression;

a classifying module for classifying ~~said~~ the regions according to at least one attribute of any one or more of ~~said~~ the graphical objects which substantially fall within ~~said~~ the regions;

a modifying module for modifying each ~~said~~ corresponding compositing expression according to a classification of each ~~said~~ region to form an optimized compositing expression for each ~~said~~ region compared to ~~said~~ the corresponding compositing expression, ~~said~~ the corresponding compositing expressions being optimized by eliminating one or more objects within ~~said further~~ the regions from one or more of ~~said~~ the corresponding

expressions, depending on ~~said~~ the classifications, while maintaining ~~without modifying said~~ the image to be generated; and

a generation module for generating ~~said~~ the image by compositing ~~said~~ the plurality of graphical objects using each of ~~said~~ the optimized compositing expressions.

63. (Currently Amended) A computer program product according to claim 62, wherein ~~said~~ the attribute is selected from the group consisting of ~~colour~~ color, opacity and object outline.

64. (Currently Amended) A computer program product according to claim 62, wherein ~~said~~ the grid is regularly spaced and preferably orthogonally based.

65. (Currently Amended) A computer program product according to claim 62, wherein ~~said~~ the grid is irregularly shaped.

66. (Currently Amended) A computer program product according to claim 62, wherein ~~said~~ the compositing expression is a hierarchically structured representation of the image.

67. (Currently Amended) A computer program product according to claim 62, wherein ~~said~~ the image is at least in part a pixel-based image,

68. (Original) A computer program product according to claim 62, wherein a flag is stored to indicate whether data of an object is opaque or ordinary.

69. (Currently Amended) A computer program product according to claim 68, wherein ~~said~~ the compositing expression is optimized based on a value of ~~said~~ the flag for contributing objects.

70. (Currently Amended) A computer program product according to claim 62, wherein a wholly opaque object in ~~said~~ the region acts to eliminate one or more objects within ~~said~~ the further region from ~~said~~ the compositing expressions.

71. (Currently Amended) A computer program product according to claim 62, wherein a wholly transparent object in ~~said~~ the region eliminates at least itself from ~~said~~ the compositing expression.

72. (Currently Amended) A computer program product according to claim 66, wherein said modifying comprises modifying a manner in which ~~said~~ the compositing expression is evaluated without modifying ~~said~~ the hierarchically structured representation.

73. (Currently Amended) A method according to claim 1, wherein one or more objects within ~~said~~ the further regions are eliminated from one or more of ~~said~~ the corresponding compositing expressions depending on ~~said~~ the classifications.

74. (Currently Amended) An apparatus according to claim 25, wherein said modifying means is configured to eliminate one or more objects within ~~said~~ the further regions from one or more of ~~said~~ the corresponding compositing expressions depending on ~~said~~ the classifications.

75. (Currently Amended) A computer program product according to claim 49, wherein said modifying module is configured to eliminate one or more objects within ~~said~~ the further regions from one or more of ~~said~~ the corresponding compositing expressions depending on ~~said~~ the classifications.

76. (Cancelled)